5/20/05

Sterling Development Project
(Dayton Canyon Estates)
Roscoe Boulevard, West Hills

Background
The Sterling Development Project is a proposed 359-acre development located near the corner of Roscoe Boulevard and Valley Circle in Dayton Creek (West Hills Chatsworth area). 147-lot single family homes are planned for the development.

Charles Gremer, President of the West Hills Neighborhood Council (WHNC) sent a letter to LA City Councilman Greig Smith and Councilman Dennis Zine on April 12, 2005, relaying concerns expressed by community members that the EIR for the development did not include sub-surface testing for environmentally hazardous materials and there will be massive restructuring of the topography releasing contaminants into the air. Community members also expressed concerns that fires of last year stirred up contaminants on SSFL and these were wind blown to the surrounding areas which could also be released during grading operations. A third concern (not expressed in the letter from Mr. Gremer, is that the development is located on Dayton Creek where contaminants from SSFL may have been deposited exposing children who live in the homes. The WHNC requested that the City Environmental Affairs department have the developer conduct "appropriate testing and execute development measures that will assure that environmentally hazardous material exceeding the EPA limitations will not be propagated beyond the development area." The WHNC Board also asked that a presentation be made to the WHNC Board of Directors meeting June 1, 2005.

The development is approximately one-half mile from the eastern property boundary of the Santa Susana Field Laboratory below the Happy Valley area. Happy Valley drainage joins with Dayton Creek at the SSFL property boundary line. Happy Valley was used for small scale development and testing of gun and rocket propellants, solid pyrotechnics, and test propellants. Gun propellant tests were conducted at a gun range and involved firing 20-40 millimeter (mm) target projectiles into a "sand catcher" backstop in from of an earthen berm. The testing was conducted between the 1950s and 1993. The area underwent an extensive investigation and cleanup for suspect unexploded ordnance (UXO) in April 1999 through January 2000. 122 suspected UXO items consisting of 20 and 40 mm projectiles and two small rocket engine igniters were uncovered and disposed.

Approximately 8,500 cubic yards of perchlorate-impacted soils, sediment, and bedrock were removed from Happy Valley Test Area and drainage in 2004 as part of a remediation effort to cleanup soils and bedrock in the Happy Valley area contaminated with perchlorate. At the same time, approximately 3,000 yards of

metals impacted soils were removed in 2000 and 2004 and sent to Chem Waste Class I Landfill in Kettleman City.

DTSC looked at the potential pathways that contaminants could migrate from the source areas to the subdivision project site. In looking at the available data and considering the trends of reduced concentrations of contaminants (based on sample data) outward from the Happy Valley Test Area, we do not think it is probable that there is significant contamination in the subdivision area. However, there are some uncertainties that we will discuss regarding our findings.

Talking Points

Typically, it is our practice to follow the path of contamination from the source area outwards along the various contaminant pathways. The three potential contaminant pathways in question for the proposed subdivision are by movement through surface waters, groundwater, and the air. Our typical practice for determining extent of contamination is to follow the path of contamination from the source outward.

The only area on SSFL which has surface water discharge into Dayton Creek is Happy Valley

Happy Valley was operated from the 1950's and was used for solid propellant research and testing until 1993

Six hundred and sixty six soil samples have been collected in the Happy Valley area and analyzed for metals, dioxins, volatile organics, explosives, and other chemicals of concern as part of the environmental investigation currently in progress at SSFL. 480 additional samples were collected for perchlorate analyses, and over 1200 samples collected during cleanup of perchlorate at the site in 2004.

Chemical contaminants identified in Happy Valley include metals (beryllium, copper, lead, and thallium), and perchlorate. Maximum perchlorate concentrations were 140 ug/L in soil leachate and 93 ug/kg in soils. Maximum metals concentrations were 34 mg/kg for beryllium, 414 mg/kg copper, 46 mg/kg lead, and 0.85 mg/kg thallium.

<u>Surface Water Pathway</u>
One of the most likely pathways for migration of contaminants from Happy Valley into Dayton Canyon would be via surface water transports of contaminants (both in sediment transport and dissolved in surface water) during rainfall events. Sediments samples were collected in the drainage below the Happy Valley test area and analyzed for various chemicals.

Soil step-out samples collected in the drainage indicated the metal concentrations in the sediment samples were well below the California Human Health Screening Levels (CHHSL) established to be protective of human health with the exception of arsenic. The arsenic levels in the soil samples were consistent with soils background concentrations at SSFL and ranged from 3.86 mg/kg to 7.41 mg/kg . The CHHSL for arsenic is 0.07 mg/kg for residential land use.

Several cubic yards of soils with very low levels of perchlorate were identified and removed from the Happy Valley drainage near the eastern property boundary (above HV-2 surface water monitoring point – see figure) during characterization work and cleanup in 2004.

Surface Water Data

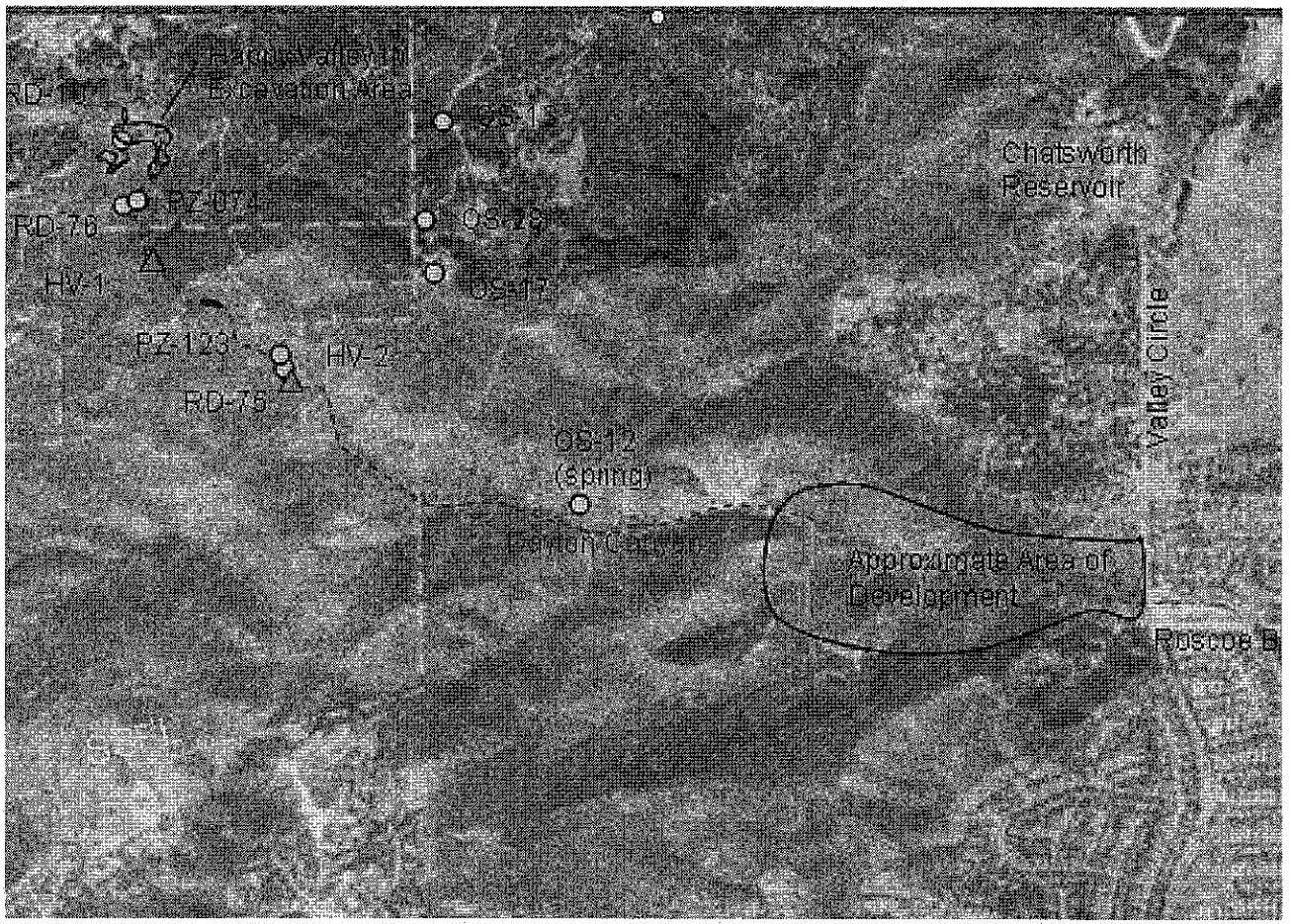
Perchorate is soluble and readily dissolves and transports in surface water runoff. The RWQCB required Boeing to monitor surface water at two NPDES monitoring points (HV-1 and HV-2) in the Happy Valley drainage. HV-1 was established in 1998 and HV-2 was established in 2003 (see figure).

HV-1

Elevated levels of perchlorate were detected in surface water in HV-1 (upper Happy Valley drainage located closest to the contaminated area) at 35 ppb in 1998. As a result of the perchlorate detects in surface water at this location, the perchlorate contaminated soils were characterized and finally excavated and removed in 2004. Recent surface monitoring during the winter of 2004/2005 – following the cleanup - were generally non-detect for perchlorate (with the exception of 2.4 ppb) detected during October 2004. Dioxins were below permit limits 2.8E-8 ug/L TEQ in surface water samples collected between October 2004 and January 2005 at this location.

HV-2

HV-2 surface water monitoring point was established by Boeing at the eastern property boundary just above Dayton Canyon in 2002. Perchlorate was detected at concentrations up to 6.6 ppb prior to the cleanup and removal of perchlorate contamination at Happy Valley (AWAITING RECENT 2004/2005 SAMPLE RESULTS).




Groundwater Pathway

Contaminants from SSFL such as perchlorate can also migrate downward through bedrock and into groundwater and migrate offsite. Six groundwater monitoring wells are located in the Happy Valley drainage area and Dayton Creek drainage (see figure). Four new wells (RD-75 and RD-74, and PZ-074 and PZ-123) were installed during 2004 as part of the perchlorate investigation and cleanup activities to test for contaminant migration from SSFL. Well RD-10 (located at the testing area – see figure) has been contaminated by the Happy Valley contaminants and contains elevated levels of perchlorate (max concentrations of 280 ug/L) and detected levels of VOCs (20 ug/L TCE and 14 ppb cis-1,2-DCE). Elevated perchlorate (max of 19 ug/L) was detected in PZ-074 just below RD-10 in the Happy Valley drainage prior to cleanup in 2003 (WAITING FOR 2004 AND 2005 RECENT DATA SHOW FOR PERCHLORATE IN THESE WELLS). No perchlorate or VOCs were detected in groundwater monitoring wells (RD-75) at the eastern property boundary (STILL WAITING FOR THIS DATA) or in offsite spring (OS-12) located in Dayton Creek drainage.

Airborne Contaminant Transport

Contaminants can also be mobilized from the SSFL via windblown particulates. To evaluate this pathway, DTSC reviewed sample data collected in soils around the SSFL to see if they appear to be impacted by site activities. Outlying soils data appear to show no elevated levels of metals or other contaminants.

As an example, dioxins in offsite soils are very low (dioxins range from 0.0013 to 0.19 ppt TEQ) relative to elevated levels of dioxins found in contaminated areas onsite which can range from several 10s to several hundred ppt TEQ. For comparison purposes 13 ppt TEQ was an interim Health Based cleanup level established for dioxins at the former FSDF which underwent cleanup in 1999. Similarly, low levels of metals were also observed in outlying soil sample locations. Vertical soil samples collected at depth at a few locations did not show discernable changes in concentrations with depth suggesting no surficial impacts at the sample locations (ASK DIXIE TO PROVIDE THIS SAMPLE INFORMATION).

Based on these offsite sample data, DTSC does not see a significant impact from airborne contamination impacting Dayton Canyon development.

CONCLUSIONS

As discussed, in reviewing the data for the potential 3 contaminant pathways, we do not think it is probable that there are contaminants from Happy Valley at the proposed subdivision for the following reasons:

1. We have done extensive sampling from the sources outward away from the sources to determine the extent of contamination. We have done interim measure cleanups in to remove significant sources to prevent migration.

2. We believe that the predominant contamination pathway from Happy Valley is the surface water pathway. We have collected sediment samples for chemicals of concern in the drainage below Happy Valley to determine the extent of contamination. The collected data does not indicate or support that there is migration of chemical contaminants to offsite locations.

3. With regard to groundwater contamination, the recent groundwater monitoring well installed at the property boundary contained no VOC or perchlorate contamination detects.

4. With regard to airborne contamination, the measured contaminant levels around the SSFL as measured in background values, shows that the offsite samples appear unimpacted (example of dioxins).

Should the City Sample the Subdivision?

As we have discussed, our review of the data suggest that it is not probable that there is significant migration of contaminants to the subdivision area from SSFL. However, it is always possible (although not probable) for contaminants to be in this drainage at the development; therefore, it would be prudent for the LA City to have the developer, as part of due diligence, sample the area. There is a similar situation with a development in Runkle Canyon, which is also below SSFL, in another drainage. In this case the developer was proactive in taking samples throughout the development for both radiologic and chemical analyses because of similar concerns since it was close to SSFL.